

WHAT IS CLAIMED IS:

SUBAL

1. A method for accessing an interior of a cavity of a patient, said method comprising:

positioning an elongated flexible conduit to extend from an exterior of the mammal through a natural orifice into an and along at least a portion of the digestive tract to a target wall segment in the digestive tract;

forming an incision in said target wall segment;

advancing a distal end of said flexible conduit so that the distal end of said conduit extends through said wall;

anchoring said distal end with respect to said wall;

advancing an endoscope through said conduit so that a distal end of said endoscope is disposed adjacent or distal to said distal end of said conduit;

viewing at least one of a tissue and an organ within said cavity;

releasing said anchor;

withdrawing said conduit and said endoscope through said wall; and closing said incision.

2. A method as in claim 1, wherein an endoscope is disposed within said conduit during said positioning step and wherein said endoscope is manipulated to guide and direct said flexible conduit to said target wall segment.

3. A method as in claim 1, further comprising, after said step of forming an incision and before said step of advancing said conduit, a step of dilating said incision to facilitate passage of said conduit therethrough.

4. A method as in claim 1, wherein said cavity is the peritoneal cavity.

5. A method as in claim 4, wherein a proximal end of said flexible conduit comprises a valve housing including a valve structure for defining a substantially air tight seal about said endoscope disposed therethrough and

having a gas injection port, and wherein said method further comprises a step of injecting a gas through said gas injection port so as to insufflate the peritoneal cavity after said anchoring step.

6. A method as in claim 1, wherein said flexible conduit has a pair of anchoring balloons defined adjacent a distal end thereof, and wherein said anchoring step comprises inflating said anchoring balloons so that a proximal said balloon is disposed within said digestive tract and a distal said balloon is disposed in the cavity, thereby to capture said wall therebetween.

7. A method as in claim 1, further comprising, after said viewing step, performing at least one endoscopic surgical procedure in said cavity.

8. A method as in claim 7, wherein said at least one surgical procedure comprises organ removal.

9. A method as in claim 1, wherein said step of closing said incision comprises applying a mechanical fastener to at least partly close said incision.

10. A method as in claim 9, wherein said step of applying a mechanical fastener comprises applying a ligating clip to close at least a portion of said incision.

11. A method as in claim 10, wherein said step of applying a mechanical fastener comprises disposing a clip applicator through an accessory channel of said endoscope, engaging a clip disposed at a distal end of said clip applicator with tissue on each lateral side of said incision and actuating said clip so as to clamp said tissue and close said incision.

12. A method as in claim 1, wherein said step of forming an incision comprises forming an incision with an endoscopic knife device.

13. A method as in claim 12, wherein said endoscopic knife device comprises a needle-knife.

14. A method as in claim 13, wherein said endoscopic knife device is operatively coupled to an electrical source for heating said needle-knife.

15. A method as in claim 13, wherein said endoscopic knife device further comprises a conduit within which said needle-knife is disposed, and wherein said needle-knife can be selectively extended to project from a distal end of said conduit and selectively retracted so as to be disposed within said conduit and wherein said needle knife is mounted so as to be selectively removable through a proximal end of said needle-knife conduit.

16. A method as in claim 12, further comprising after said incision step advancing a distal end of said endoscopic knife device through said incision.

17. A method as in claim 12, further comprising after said incision step advancing the distal end of said endoscopic knife device through said incision.

18. A method as in claim 17, further comprising removing said needle-knife from said needle-knife conduit and feeding a guide wire through said needle-knife conduit.

19. A method as in claim 18, wherein said endoscopic knife device further comprises an inflatable balloon provided adjacent said distal end of said needle-knife conduit.

20. A method as in claim 19, and further comprising, after said step of advancing the distal end of said endoscopic knife device through the incision, inflating said inflatable balloon to dilate said incision.

21. A method as in claim 1, wherein said target wall segment is a portion of the stomach wall.

22. A method as in claim 1, wherein said step of positioning said flexible conduit comprises positioning said flexible conduit through the patient's oral cavity and esophagus.

23. An endoscopic access device comprising:  
an elongated, hollow, flexible tube having an interior passage sized to receive and allow the passage of an endoscope, said tube having an open distal end;  
first and second inflatable balloon structures defined adjacent said distal end of said tube; and  
an inflation conduit extending respectively from said first and second balloon structures to respective inflation ports disposed adjacent a proximal end of said tube for selective, independent inflation and deflation of said balloon structures.

24. A device as in claim 23, further comprising:  
a valve housing defined at said proximal end of said tube for selectively defining a substantial fluid tight seal with an endoscope disposed therethrough.

25. A device as in claim 24, further comprising a gas injection port in said valve housing for selectively injecting media along said tube for delivery to an area beyond said distal end.

26. A device as in claim 23, wherein at least a distal portion of said tube is formed from a transparent material.

27. A device as in claim 26, wherein substantially said entire tube is formed from a transparent material.

28. A device as in claim 23, wherein said interior passage for receiving an endoscope has a diameter of at least about 10 mm.

29. A device as in claim 28, wherein said interior passage has a diameter of between about 10 mm - 20 mm.

30. A dilating needle knife device comprising:  
an elongated conduit having a passage defined therethrough;  
a needle-knife wire disposed in said conduit and terminating distally in a needle-knife tip;  
an actuation device provided adjacent a proximal end of said conduit and secured to a proximal end of said needle-knife wire, said actuating device including an actuation mechanism for selectively shifting said needle-knife wire relative to said conduit for selectively extending said needle-knife tip to a deployed position, projecting from a distal end of said conduit, and retracting said needle-knife tip to a sheathed position, within said distal end of said conduit;  
an inflatable balloon structure one of mounted to and defined on an exterior surface of said conduit, adjacent said distal end; and  
an inflation lumen extending proximally from said balloon to an inflation port adjacent said proximal end of said conduit.

31. A dilating needle-knife device as in claim 30, wherein said actuation device further comprises an electrical coupler, electrically coupled to said needle-knife wire, for selectively coupling said needle-knife wire to a current source.

32. A dilating needle-knife device as in claim 30, wherein said actuation device is detachably coupled to said proximal end of said conduit whereby said needle-knife wire is removable from said conduit on detachment of said actuation device from said conduit.

33. A dilating needle-knife device as in claim 30, wherein said inflatable balloon structure is elongated such that a length thereof is substantially greater than a diameter thereof following inflation.

34. A dilating needle-knife device as in claim 33, wherein said length of said balloon is at least about twice the inflated diameter thereof.

35. A dilating needle-knife device as in claim 34, wherein said length of said balloon is about three-five times the inflated diameter thereof.